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cancel duplicate a digital signal. The digital picture provided through a line 180 using the internet has been downloaded to a hard disk apparatus 181, and reproduced on a computer screen 182 by an information device such as a personal computer.

Please REPLACE the paragraph beginning at page 2, line 16, as follows:

a3 Regarding an analogue signal, for example, in a VTR currently in use, there are software, or programs provided with some kind of copy guard process in order to protect against illegal copying. And it is possible to display the program normally on the television but the image quality, even if it was recorded, becomes worse at VTR for household use, then it is impossible to record the program on videotape substantially.

Please REPLACE the paragraph beginning at page 3, line 7, as follows:

a4 Fig. 2 shows a drawing for explaining an example of recording and duplicating of a video signal. The analogue picture provided on the videotape 190 currently in use can be reproduced normally on a television screen 183 using VTR (playback) 191 (Fig. 2 (a)), even if a copy guard is applied to the videotape.

Please REPLACE the paragraph beginning at page 4, line 3, as follows:

a5 A video signal including the copy guard signal 210 is shown in Fig. 4. The copy guard signal 210 has a higher level than the image signal 202 in voltage. Therefore, the AGC circuit of a recording and reproducing device recognizes the high voltage level of the copy guard signal 210 as an ordinary level and makes the voltage level of image signal 202 lowered relatively when the video signal is inputted. Hence, the picture recorded becomes very dark, and it is possible to protect against illegal copying.

Please REPLACE the paragraph spanning pages 5-6, as follows:

a6 The picture stored at the storage apparatus such as the hard disk device 181 or CD-ROM device is reproduced at the computer screen, therefore, if the computer has the output terminal 221 for a video signal, it will be possible to record the picture on a videotape using VTR (recording). If a storage apparatus with a high speed memory and

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sufficiently large enough comes into existence, even if the picture quality of the videotape becomes higher, it will be possible to store the picture keeping the high quality and to output the video signal reproducing the high quality picture. Fig. 7 shows a block diagram for explaining an example of the prior art. A video decoder 3 digitizes a video signal 240 inputted at an input terminal 220 for a video signal. Digitized video information is stored as a screen information at a video memory 5. When the video information is inputted, the input data from the video decoder 3 is stored into the video memory 5 by a graphics controller 6. When a video information is outputted from a hard disk device 181, the output data is stored into the video memory 5 as every screen information by the graphics controller 6. RGB signal is outputted to a display device 9 out of the graphics controller 6, and a digital signal is outputted to a video encoder 7 out of the graphics controller 6. A video signal 241 converted to analogue from digital, at the graphics controller 6, is outputted to an output terminal 221 for a video signal.

Please REPLACE the paragraph beginning at page 7, line 18, as follows:

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Fig. 10 is a time chart for explaining the video signal (digital) after A/D conversion. The signal 270 in Fig. 10 shows that the copy guard signal 210 is dropped. When the analogue signal is converted to the digital signal, the highest voltage level of the image signal 202 is defined as a standard. Therefore, if there is no function for detecting a copy guard signal, the high level in voltage of the copy guard signal is missing when YUV 252 is digitized.

Please REPLACE the paragraph beginning at page 8, line 8, as follows:

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When an output terminal for a video signal such as the output terminal 202 is provided to a computer, it is possible to output video signal of pictures on the computer screen. And a copy guard signal might be dropped, even though the video signal including the copy guard signal is inputted. Thus, there is a problem such as it would be likely to reproduce pictures or audio programs in spite of having a copy guard signal, if VTR for recording is connected to the output terminal for a video signal of a computer.

Please REPLACE the paragraph beginning at page 10, line 2, as follows:

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Fig. 1 is a drawing showing an example of recording or outputting to duplicate a

digital signal;

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Please REPLACE the paragraph beginning at page 12, line 2, as follows:

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Preferred embodiments of the invention will be described below with reference to the accompanying drawings.

Please REPLACE the paragraph beginning at page 12, line 11, as follows:

a11
A graphics controlling circuit 6 controls both input and output of picture information, a series of screen information, using a video memory 5. After data is inputted to the graphic controlling circuit 6 through the video decoding circuit 3, the data is once stored at the video memory 5 as every screen information, then the data is outputted to a video encoding circuit 7.

Please REPLACE the paragraph beginning at page 13, line 10, as follows:

a12
A processing unit 4 shown in Fig. 12 has an image process instructing command 41 and a recording & reproducing command 42. The image process instructing command 41 instructs an image processing circuit 61 in graphics controlling circuit 6 to process the screen information stored at the video memory 5. And the image processing circuit 61 processes the screen information.

Please REPLACE the paragraph beginning at page 13, line 21, as follows:

a13
When the image processing circuit 61 is instructed to process the screen information, to reduce a number of pixels (picture elements) for each screen or of screens for each frame (called frame reduction), and as a result of the process, the image quality is deteriorated.

Please REPLACE the paragraph spanning pages 13-14, as follows:

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The recording & reproducing command 42 controls to record or to reproduce the picture information. When the copy guard detecting circuit 2 detects a copy guard

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signal, the recording & reproducing command 42 is issued to the image processing circuit 61. And the image processing circuit 61 prohibits recording the picture information into the storage device 8, or stores that the copy guard signal has been detected into the storage device 8.

Please REPLACE the paragraph beginning at page 14, line 8, as follows:

Q15
When the picture information stored in the storage device 8 is reproduced and copy-guarded, the recording & reproducing command 42 is issued to the image processing circuit 61. And the image processing circuit 61 prevents the video encoding circuit 7 from outputting of the video signal or controls the video encoding circuit 7 to add a copy guard signal to the video signal.

Please REPLACE the paragraph spanning pages 14-15, as follows:

Q16
In this way, the picture information is processed so as to reduce quality thereof and is stored, or is not recorded, when a copy guard signal is detected. And the picture information is processed and outputted, or the output video signal is stopped, or a copy guard signal is added when a video signal including a copy guard signal is inputted or what is stored is copy-guarded. Therefore, is possible to protect from illegal copying using a computer or VTR for analogue recording.

Please REPLACE the paragraph beginning at page 15, line 12, as follows:

Q17
Since the image quality is lowered, or outputting itself is prohibited, or a copy guard signal is added when a video signal having a copy guard signal or what is copy-guarded is outputted, the picture information with high quality is protected from being recorded at a VTR connected to the output terminal.

Please REPLACE the paragraph beginning at page 17, line 3, as follows:

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The display device 9 is connected to the graphic controller 6, and displays the computer output including the picture information consisting of an RGB signal, which is outputted at the graphic controller 6.

Please REPLACE the paragraph spanning pages 20-21, as follows:

Q19

There are three principal methods:

pixels are reduced at each screen, called pixel reduction;

reduction in lines, called line reduction; or

reduction in screens, called frame reduction.

Please REPLACE the paragraph beginning at page 21, line 2, as follows:

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Fig. 18 shows an example of pixel reduction. If the reduction ratio is $1/2$, both in horizontal and in vertical pixel reduction, an aspect ratio or a resolution of screen is changed from (640X480) dots to (320X240) dots.

Please REPLACE the paragraph beginning at page 21, line 11, as follows:

Q21

Fig. 19 shows an example of frame reduction. Frame reduction is processed with a reduction ratio, as follows. In case of the ratio= $1/2$, every other frame is reduced (i.e., cancelled), then the ratio, 30 frames/second becomes 15 frames/second.

Please REPLACE the paragraph beginning at page 21, line 15, as follows:

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Reduction ratio in frame reduction need not be limited to $1/2$ and instead may be $2/3$, for example, resulting in that a frame ratio of 30 frames/second becomes 10 frames/second, as shown in Fig. 19.

IN THE CLAIMS:

Please REPLACE claims, in accordance with the following:

Please CANCEL claims 7, 8, 9, 19, 20, and 21.

Please AMEND the following claims: